

V_{CBO} 30~80V, I_C 100mA SOT-23 Plastic-Encapsulate NPN Transistors

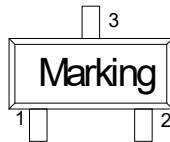
1. Features

- Complementary to BC856/ BC857/ BC858
- Power dissipation of 200mW
- Ideally suited for automatic insertion

2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3. Pin configuration

Pin		Function		Outline				
1		Base						
2		Emitter						
3		Collector						
Part number	BC846A	BC847A	BC848A	BC846B	BC847B	BC848B	BC847C	BC848C
Marking	1A	1E	1J	1B	1F	1K	1G	1L

4. Specification

Absolute Maximum Rating & Thermal Characteristics

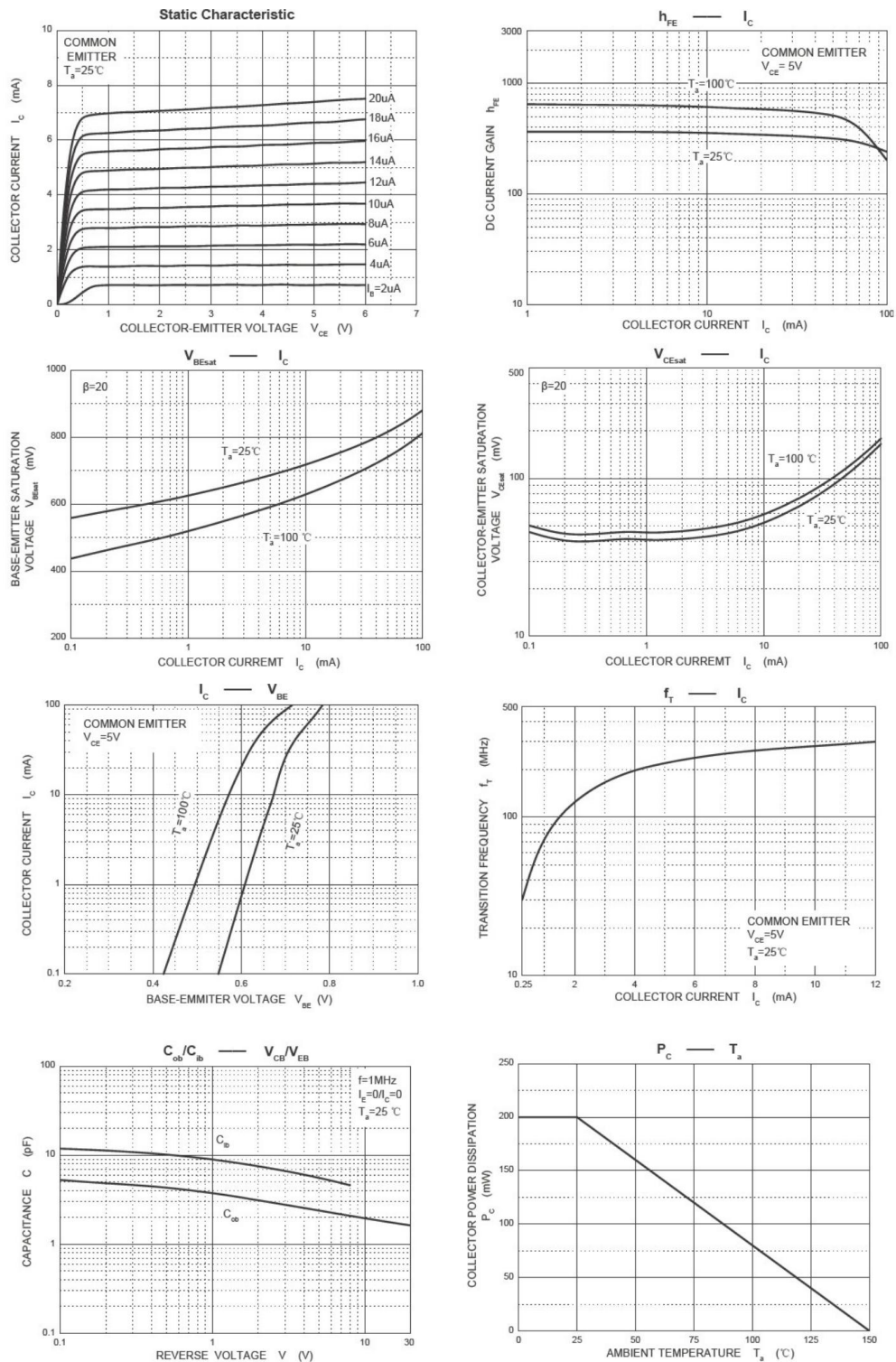
Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol		Value	Unit
Collector-Base Voltage	V_{CBO}	BC846	80	V
		BC847	50	
		BC848	30	
Collector-Emitter Voltage	V_{CEO}	BC846	65	V
		BC847	45	
		BC848	30	
Emitter-Base Voltage	V_{EBO}		6	V
Collector Current-Continuous	I_C		100	mA
Collector Power Dissipation	P_C		200	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{STG}		-55~150	°C
Thermal resistance from junction to ambient	$R_{\theta JA}$		625	°C/W

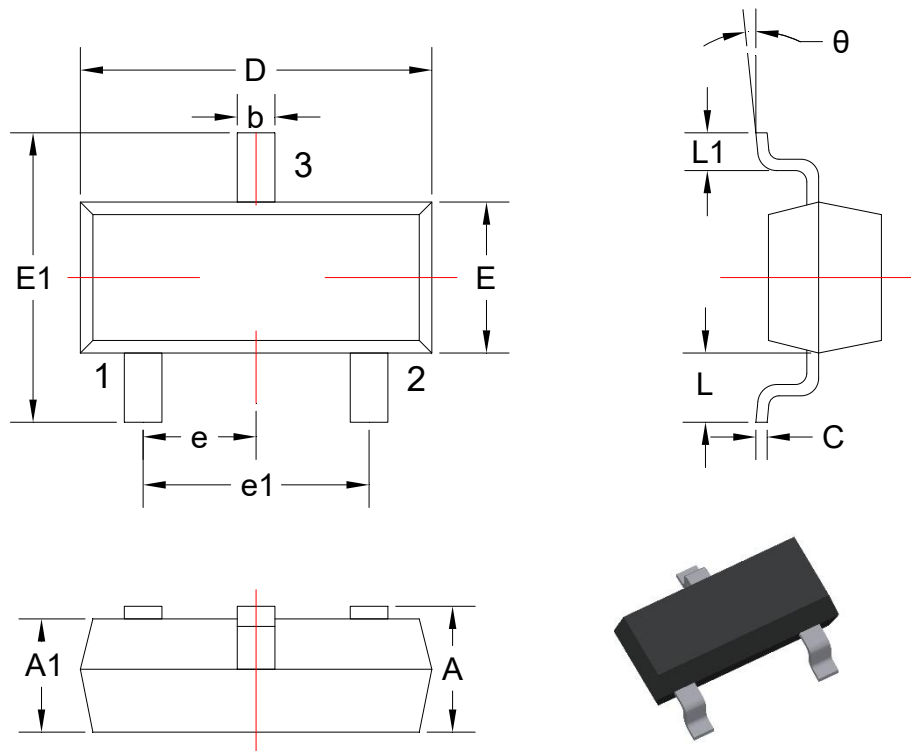
Electrical Characteristics(At TA = 25°C unless otherwise specified)

Parameters	Symbols	Test Condition		Limits			
				Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	BC846	80			V
			BC847	50			
			BC848	30			
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	BC846	65			V
			BC847	45			
			BC848	30			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$		6			V
Collector cut-off current	I_{CBO}	$V_{CB}=70V, I_E=0$	BC846			100	nA
		$V_{CB}=50V, I_E=0$	BC847				
		$V_{CB}=30V, I_E=0$	BC848				
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$				100	nA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=2mA$	BC846/7/8A	110		220	
			BC846/7/8B	200		450	
			BC847/8C	420		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$				0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$				1.10	V
Collector output capacitance	C_{OB}	$V_{CB}=10V, f=1MHz$				4.5	pF
Transition frequency	f_T	$V_{CE}=5V, I_C=10mA,$ $f=100MHz$		100			MHz

5. Typical Characteristic

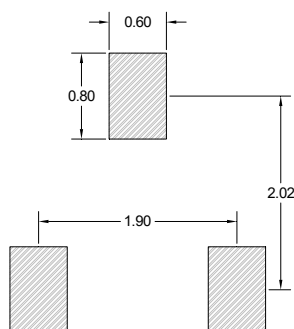


6. Dimension and Patterns (SOT-23)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.00	L1	0.300	0.500
E	1.200	1.400	θ	0°	8°



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference only
4. Unit: mm

Notice

1. All product, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. The right to explain is owned by CCX electronics company.
2. Confirm that operation temperature is within the specified range described in the product specification.

Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
3. CCX shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.